

CLAIMS

## 1. Flow shut-off element comprising:

- a valve body (2) having an inner cavity (3) and a plurality of accesses (4, 5, 6) communicating with the said inner cavity (3) to allow a flow of fluid; and
  - a selector (7) associated with the valve body (2) and movable relatively to the latter into a predetermined number of operating positions, the said selector (7) being active in the said inner cavity (3) to form, as a result of movements into the said operating positions, predetermined paths in which the fluid flow is permitted and/or shut off between the said accesses (4, 5, 6);
- 15 characterized in that it also comprises an auxiliary element (8) associated with the valve body (2) and made in the form of an independent body, the said auxiliary element (8) being provided with positioning means (9) to enable an operator to determine when one of the said predetermined operating positions of the selector has been reached.
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- 25 2. Element according to claim 1, characterized in that the selector (7) comprises a predetermined number of catches and/or notches (10) designed to interact with the positioning means (9) to make it possible to perceive when the said predetermined operating positions of the selector (7) have been reached.
- 30 3. Element according to claim 2, characterized in that the positioning means (9) have at least one corresponding catch and/or notch (11) designed to

be engaged in at least one of the said notches and/or catches (10).

4. Element according to any one of the preceding claims, characterized in that the positioning means (9) comprise an elastic element (12) having a locking catch (11) designed to interact with corresponding notches (10) present in the selector (7).  
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5. Element according to any one of claims 2 to 4, characterized in that the notches (10) of the selector (7) are formed in an essentially circular ring (7a) of the selector (7).  
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6. Element according to any one of the preceding claims, characterized in that the selector (7) comprises a projecting portion (13) designed to be inserted, in operating conditions, into the inner cavity (3) of the valve body (2), relative movements of the selector (7) with respect to the valve body (2) and to the auxiliary element (8) causing different operating positions to be reached.  
15
7. Element according to claims 6 and 5, characterized in that the circular ring (7a) is essentially coaxial with the projecting portion (13), interacting with the latter to delimit a cavity (14) for engagement with the valve body (2).  
25
8. Element according to claim 4, characterized in that the locking catch (11) is positioned at a free end of the elastic element (12).
- 30 9. Element according to claim 4 or 8, characterized in that the elastic element (12) has an essentially curved axis of extension.

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10. Element according to any one of the preceding claims, characterized in that the positioning means (9) comprise a stop projection (22) to form a mechanical stop to the movement of the selector (7).  
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11. Element according to any one of the preceding claims, characterized in that the positioning means (9) are shaped in such a way as to permit a relative rotation of the selector (7) with respect to the valve body (2) in only one direction (23).  
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12. Element according to any one of the preceding claims, characterized in that the auxiliary element (8) has a central through cavity (24).  
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13. Element according to claims 4, 10 and 12, characterized in that the locking catch (11), and preferably also the stop projection (22), face towards the said central through cavity (24) of the auxiliary element (8).  
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14. Element according to claim 6, characterized in that the projecting portion (13) of the selector (7) is of essentially cylindrical shape and is at least partially shaped to be complementary to the inner cavity (3) of the valve body (2).  
25
15. Element according to claim 6, characterized in that the selector (7) is movable with respect to the valve body (2) and about an axis of rotation (15), the projecting portion (13) being preferably cylindrical and having its axis of extension coinciding with the axis of rotation (15).  
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16. Element according to claim 6, characterized in that the projecting portion (13) comprises predetermined channels (16) designed to interact with the accesses (4, 5 and 6) formed in the valve

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body (2) to create different fluid paths within the shut-off element according to the relative positions of the selector (7) with respect to the valve body (2).

- 5    17. Element according to any one of the preceding claims, characterized in that the valve body (2) comprises at least a first, a second and a third access (4, 5 and 6) for the fluid, the selector (7) being capable at least of switching the shut-  
10      off element between a condition in which the flow of fluid is prevented, a condition in which fluid flows from the third to the second access (6, 5), a condition in which fluid flows from the first to the second access (4, 5), and a condition in which fluid flows from the first to the third access (4, 6).  
  
15    18. Element according to any one of the preceding claims, characterized in that the selector (7) has at least one aperture (17), different relative positions of the selector (7) with respect to the valve body (2) providing visual access through the said aperture (17) to corresponding different areas of the auxiliary element (8).  
  
20    19. Element according to the preceding claim,  
25      characterized in that the auxiliary body (8) has on one of its surfaces (8a) facing the selector (7) predetermined visual representations (18), the said representations (18) being, in particular, graphic symbols and/or alphanumeric indications and/or colours relating to the paths in which the fluid flow is shut off and/or permitted between the said accesses.  
  
30    20. Element according to any one of the preceding claims, characterized in that the selector (7) has

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a grip portion (19) to enable a user to rotate it with respect to the valve body (2).

21. Element according to Claim 20, characterized in that the said grip portion (19) is delimited by stiffening ribs (20) extending transversely with respect to an axis of rotation (15).  
5
22. Element according to claim 7, characterized in that the valve body (2) has an inner perimetric wall (21) forming the inner cavity (3), an upper portion (21a) of the said perimetric wall (21) being designed to be inserted and guided in its movement by the engagement cavity (14) of the selector (7).  
10
23. Element according to any one of the preceding claims, characterized in that, in conditions of engagement of the valve body (7) with the auxiliary element (8), the inner perimetric wall (21) passes through the central through cavity (24).  
15
24. Element according to any one of the preceding claims, characterized in that the selector (7) and/or the valve body (2) and/or the auxiliary element (8) are essentially discoid in shape.  
20
25. Element according to claim 6, characterized in that the projecting portion (13), in operating conditions, is inserted in a fluidtight way into the inner cavity (3) of the valve body (2).  
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26. Element according to any one of the preceding claims, characterized in that the valve body (2) has at least one, and preferably several, locating blocks (25) to enable the auxiliary element (8) to be positioned correctly on the said valve body (2).  
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27. Element according to claim 26, characterized in that the auxiliary element (8) has corresponding notches (26) designed to receive the said locating blocks (25) of the valve body (2).

5 28. Element according to any one of the preceding claims, characterized in that the auxiliary element (8) is removably associated with the valve body (2).

29. Flow shut-off element comprising:

10 - a valve body (2) having an inner cavity (3) and a plurality of accesses (4, 5, 6) communicating with the said inner cavity (3) to permit a flow of fluid; and

15 - a selector (7) associated with the valve body (2) and movable relatively to the latter into a predetermined number of operating positions, the said selector (7) being active in the said inner cavity (3) to form, as a result of movements into the said operating positions, predetermined paths 20 in which the fluid flow is permitted and/or shut off between the said accesses (4, 5, 6),

25 characterized in that it also comprises an auxiliary element (8) associated with the valve body (2), the said auxiliary element (8) having on one of its surfaces (8a) facing the selector (7) predetermined visual representations (18), the said representations (18) preferably being graphic symbols and/or alphanumeric indications and/or colours relating to the paths in which the fluid 30 is shut off and/or flows within the shut-off element.

30. Flow shut-off element comprising:

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- a valve body (2) having an inner cavity (3) and a plurality of accesses (4, 5, 6) communicating with the said inner cavity (3) to permit a flow of fluid; and

5 - a selector (7) associated with the valve body (2) and movable relatively to the latter into a predetermined number of operating positions, the said selector (7) being active in the said inner cavity (3) to form, as a result of movements into  
10 the said operating positions, predetermined paths in which the fluid flow is permitted and/or shut off between the said accesses (4, 5, 6),

15 characterized in that it also comprises an auxiliary element (8) removably associated with the valve body (2) and made in the form of an independent body, the said auxiliary element (8) being provided with positioning means (9) to enable an operator to determine when one of the  
20 said predetermined operating positions of the selector has been reached, the selector (7) comprising an essentially circular ring (7a) in which is formed a predetermined number of notches (10) designed to interact with at least one corresponding catch (11) of the positioning means (9), the said catch (11) being designed to be  
25 engaged in the said notches (10).